



U.S. Environmental Protection Agency
Office of Waste Programs Enforcement
Contract No. 68-W9-0006

**PRELIMINARY ASSESSMENT/
VISUAL SITE INSPECTION**

**GRM INDUSTRIES
WYOMING, MICHIGAN
MID 005 356 175**

FINAL REPORT

TES 9

**Technical Enforcement Support
at Hazardous Waste Sites
Zone III
Regions 5,6, and 7**



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Prepared for

**U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Waste Programs Enforcement
Washington, DC 20460**

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TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
EXECUTIVE SUMMARY	ES-1
1.0 INTRODUCTION	1
2.0 FACILITY DESCRIPTION	4
2.1 FACILITY LOCATION	4
2.2 FACILITY OPERATIONS	4
2.3 WASTE GENERATING PROCESSES	7
2.4 HISTORY OF DOCUMENTED RELEASES	12
2.5 REGULATORY HISTORY	15
2.6 ENVIRONMENTAL SETTING	16
2.6.1 Climate	16
2.6.2 Flood Plain and Surface Water	16
2.6.3 Geology and Soils	16
2.6.4 Groundwater	17
2.7 RECEPTORS	18
3.0 SOLID WASTE MANAGEMENT UNITS	19
4.0 AREAS OF CONCERN	29
5.0 CONCLUSIONS AND RECOMMENDATIONS	30
REFERENCES	36

Attachments

A	EPA PRELIMINARY ASSESSMENT FORM 2070-12
B	VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPHS
C	VISUAL SITE INSPECTION FIELD NOTES

LIST OF TABLES

Table

1	SOLID WASTE MANAGEMENT UNITS (SWMUs)	9
2	SOLID WASTES	10
3	SWMU AND AOC SUMMARY	32

LIST OF FIGURES

Figure

1	FACILITY LOCATION	6
2	FACILITY LAYOUT	8

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EXECUTIVE SUMMARY

ENFORCEMENT
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B&V Waste Science and Technology Corp. (BVWST) performed a preliminary assessment and visual site inspection (PA/VSI) to identify and assess the existence and likelihood of releases from solid waste management units (SWMUs) and other areas of concern (AOCs) at the GRM Industries facility in Wyoming, Michigan. This report summarizes the results of the PA/VSI and evaluates the potential for releases of hazardous wastes or hazardous constituents from the SWMUs and AOCs identified. In addition, a completed U.S. Environmental Protection Agency (EPA) Preliminary Assessment Form (EPA Form 2070-12) is included in Attachment A to assist in prioritization of Resource Conservation and Recovery Act (RCRA) facilities for corrective action.

GRM Industries manufactures lightweight automotive parts at the facility using a metal stamping process. The facility generates and manages the following wastes: electroplating sludge (F006), chrome plating drippings (F006), 1,1,1-trichloroethane degreaser solvent (F001), chromic acid solution (D007), strip solution (F009), waste oil (non-hazardous), scrap metal (non-hazardous), and a waste oil/water mixture (non-hazardous). GRM Industries has operated the facility at its current location since 1974. The plant occupies 10.4 acres in an industrial/residential area and employs about 80 people. The current regulatory status of the GRM Industries plant is that of a generator. The plant was formerly regulated as a treatment, storage, and disposal facility, with container (S01) and tank (S02) storage of hazardous wastes. The previous facility owner, Grand Rapids Brass, was also known as Grand Rapids Metal Craft. In 1954, Grand Rapids Brass built the facility and in 1955 began a high volume chrome plating operation.

The PA/VSI identified the following eleven SWMUs and one AOC at the facility:

Solid Waste Management Units

1. Degreaser Solvent Tank
2. Drum Storage Room
3. Waste Water Treatment Plant
4. Scrap Metal Roll-Off Dumpster
5. Chrome Sludge Dumpster
6. Waste Oil Pits
7. Air Scrubber
8. Waste Oil/Water Pit
9. Additional Drum Storage Areas
10. Dry Wells
11. Vapor Extraction Tank

Areas of Concern

1. Underground Storage Tank

The facility has been inactive since March of 1992. However, due to significant ground water and soil contamination in the past and lack of closure activities following plant shut down, the facility has potential for release to environmental media. Prior to 1965, documented releases of chromium to surface water, ground water, and on-site soils have occurred. Chrome dust accumulated in roof vents and was carried by storm water runoff to dry wells (SWMU 10) near the west side of the facility. Poor waste management procedures allowed solid and liquid chrome wastes to be discharged to the onsite soils. These releases resulted in the contamination and eventual shut down of a nearby municipal well field. This well field remains inactive, due to exclusive use of Lake Michigan water as municipal water supply, and there is no record of any remedial activity. SWMUs had low air contamination potential because all volatile wastes were well contained in tanks or drums. However, groundwater and soil contamination potential varied between SWMUs, ranging from low to high. The degreaser solvent tank (SWMU #1) was in poor condition and lacks any secondary containment. Thus, the possibility that its contents (if any) may leak out and contaminate the soil and the shallow groundwater (15-20 feet) is moderate. The drum storage room (SWMU #2) is an indoor area that is relatively clean, with a concrete floor. Therefore, the potential for soil and groundwater contamination is low. The waste water treatment system (SWMU #3) was located on a concrete floor with diking and an electronic alarm for level control. The scrap metal roll-off dumpster (SWMU #4) was cited in a 1989 RCRA inspection for leaking oil and contaminating adjacent soils. The soil was specified to be removed and the area was to be modified to protect against further releases. GRM records indicate this violation was to be corrected, but no record indicates that it was corrected. During the VSI, the area appeared very dirty and an oily scum covered the concrete as well as some adjacent soil. Based on these observations, potential for oil contamination of the groundwater is moderate.

The chrome sludge dumpster (SWMU #5) is in good condition and is covered with a tarp. Therefore, soil and groundwater contamination potential is low. Soil and ground water contamination potential from the waste oil pits (SWMU #6), constructed of concrete and located inside the building, is low. The air scrubber (SWMU #7) is located in the ceiling of the main building and is inactive. Potential for release to soil and groundwater is low. The waste oil/water pit (SWMU #8), located inside a building on a concrete floor, presents a low potential for release to soils and groundwater. The additional drum storage areas (SWMU #9) are in an indoor area that is relatively clean, with a concrete floor. This situation makes groundwater and soil contamination potential low.

Little information regarding the underground storage tank (AOC #1) is known. Given that the contents and integrity of the tank are unknown, the potential for groundwater contamination is moderate. The ground water near the facility has been tested numerous times. Substantial chromium content was noted in the 1950s and 1960s. In 1956, Wyoming Township brought suit against Grand Rapids Brass for contaminating the groundwater. In response to these charges, actions were taken to lessen the possibility of further contamination. Samples taken from four on-site ground water monitoring wells installed in 1989 indicated reduced chromium contamination. However, these ground water samples also indicated the presence of trichloroethylene. No groundwater remediation is known to have taken place. Four samples of on-site soil, three surface and one subsurface, were taken in 1989. Test results indicate elevated levels of nickel and chromium in all samples.

As recently as 1989, results of ground water samples from beneath the site have shown significant contamination. The possibility exists for contaminated ground water to migrate to Buck Creek, located approximately 1,000 feet south of the site. The entire Grand Rapids region is supplied with water from Lake Michigan and local groundwater is used only to a small degree. According to the City of Wyoming, the few private wells located near the facility are used primarily for lawn-watering purposes. Those wells are all upgradient of the facility. Other potential receptors include residences that border the south end of the facility and Kelloggville Southwest School, which lies one third of a mile southeast of the facility. The nearest wetland area is located one and a half miles west of the facility. Site access is restricted by a fence with an electronic protection system. A guard service provides additional site security daily from 2 p.m. to 7 a.m.

The facility ceased operations in March of 1992, and did not submit a closure plan or any further information regarding removal of hazardous wastes or clean up activities. As early as 1955 and as recently as 1989, sampling results have found soil and groundwater contamination, due to documented releases in the 1950's and 1960's. Based on documented releases in the past and lack of information regarding closure, this facility requires extensive further investigation. BVWST recommends a thorough review of existing data, to determine if it can adequately assess the threat the facility poses to human health and the environment. Further soil and ground water sampling, and eventually, remedial action may be necessary. Formal requests for information from the owner and operator are recommended, in order to determine what, if any, closure activities were performed following the shut down of the facility. Assuming that no closure activities were performed, BVWST recommends the following: that the degreaser solvent tank (SWMU #1), the wastewater treatment plant (SWMU #3), the scrap metal roll-off dumpster (SWMU #4), the waste oil pits (SWMU #6), and the waste oil/water pit (SWMU #8) meet closure requirements of the Michigan Department of Natural Resources (MDNR) and the EPA. In addition, the degreaser solvent tank

(SWMU #1) should be removed due to its poor condition and lack of any secondary containment. Once the degreaser solvent tank is removed the underlying soil should be sampled. The soil which underlies the scrap metal roll-off dumpster (SWMU #4) should also be sampled. The waste oil pits (SWMU #6), the waste oil/water pit (SWMU #8), and the underground storage tanks (AOC #1) should be integrity-tested. If these units fail their integrity tests then soil samples should be taken, if possible, to confirm and delineate contamination. The chrome sludge dumpster (SWMU #5) should undergo RCRA closure because its contents are hazardous and have been onsite for more than 90 days. The former locations of the dry wells (SWMU 10) and vapor extraction tank (SWMU 11) should be located and sampled for chromium. Remaining SWMUs should be subject to closure requirements of EPA and MDNR.

1.0 INTRODUCTION

PRC Environmental Management, Inc. (PRC), received Work Assignment No. C05087 from the U.S. Environmental Protection Agency (EPA) under Contract No. 68-W9-0006 (TES 9) to conduct preliminary assessments (PAs) and visual site inspections (VSIs) of hazardous waste treatment and storage facilities in Region 5. As a team member with PRC under the TES 9 contract, B&V Waste Science and Technology Corp. (BVWST) conducted the PA/VSI for the GRM Industries facility.

As part of the EPA Region 5 Environmental Priorities Initiative, the RCRA and CERCLA programs are working together to identify and address RCRA facilities that have a high priority for corrective action using applicable RCRA and CERCLA authorities. The PA/VSI is the first step in the process of prioritizing facilities for corrective action. Through the PA/VSI process, enough information is obtained to characterize a facility's actual or potential releases to the environment from solid waste management units (SWMUs) and areas of concern (AOCs).

A SWMU is defined as any discernible unit at a RCRA facility in which solid wastes have been placed and from which hazardous constituents might migrate, regardless of whether the unit was intended to manage solid or hazardous waste.

The SWMU definition includes the following:

- RCRA-regulated units, such as container storage areas, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, and underground injection wells.
- Closed and abandoned units.
- Recycling units, wastewater treatment units, and other units that EPA has generally exempted from standards applicable to hazardous waste management units.
- Areas contaminated by routine and systematic releases of wastes or hazardous constituents. Such areas might include a wood preservative drippage area, a loading-unloading area, or an area where solvent used to wash large parts has continually dripped onto soils.

An AOC is defined as any area where a release to the environment of hazardous waste or constituents has occurred or is suspected to have occurred on a nonroutine and nonsystematic basis. This includes any area where such a release in the future is judged to be a strong possibility.

The purpose of the PA is as follows:

- Identify SWMUs and AOCs at the facility.
- Obtain information on the operational history of the facility.
- Obtain information on releases from any units at the facility.
- Identify data gaps and other informational needs to be filled during the VSI.

The PA generally includes review of all relevant documents and files located at state offices and the EPA Region 5 office in Chicago.

The purpose of the VSI is as follows:

- Identify SWMUs and AOCs not discovered during the PA.
- Identify releases not discovered during the PA.
- Provide a specific description of the environmental setting.
- Provide information on release pathways and the potential for releases to each medium.
- Confirm information obtained during the PA regarding operations, SWMUs, AOCs, and releases.

The VSI includes interviewing appropriate facility staff, inspecting the entire facility to identify all SWMUs and AOCs, photographing all SWMUs, identifying evidence of releases, initially identifying potential sampling locations, and obtaining all information necessary to complete the PA/VSI report.

This report documents the results of a PA/VSI of the GRM Industries facility in Wyoming, Michigan. The PA was completed on November 14, 1991. BVWST gathered and reviewed information from the Michigan Department of Natural Resources (MDNR) and from the EPA Region 5 RCRA files. Additional sources of information reviewed include USGS quadrangle maps and well logs.

The VSI was conducted on November 15, 1991; and it included interviews with facility representatives and a walk-through inspection of the facility. Eleven SWMUs and one AOC were identified at the facility.

BVWST completed EPA Form 2070-12 using information gathered during the PA/VSI. This form is included in Attachment A. A summary of the VSI and nine inspection photographs are included in Attachment B. Field notes from the VSI are included in Attachment C.

2.0 FACILITY DESCRIPTION

This section describes the facility's location, past and present operations (including waste management practices), waste generating processes, history of documented releases, regulatory history, environmental setting, and receptors.

2.1 FACILITY LOCATION

The GRM Industries facility is located at 420 50th Street SW in Wyoming, Kent County, Michigan (latitude 42° 52' 108" N and longitude 85° 40' 303" W), as shown in Figure 1. The facility occupies approximately 10.4 acres in an industrial/residential area.

The GRM Industries facility is bordered on the north by Gordon Food Processing, on the west by the Gordon Food Processing parking lot, on the south by a residential area, and on the east by a cement factory.

2.2 FACILITY OPERATIONS

GRM Industries manufactured lightweight automotive parts using a metal stamping process. Operations began at the facility in 1955 and ceased on March 31, 1992. GRM Industries produced such parts as oil pans, brackets, and bumper guards. Most products, such as oil pans and brackets, are finished products after pressing. Parts with multiple pieces underwent a two- or three-stage cleaning process followed by a resistance welding operation to join them.

Past operations include a chrome application process. Until 1990, bumper guards were plated using an extensive chroming process. Each bumper guard was dipped into 32 tanks containing acid, chrome, and nickel solutions. This process generated an acidic wastewater containing chromium and nickel that was routed to an on-site wastewater treatment plant (SWMU #3).

Raw materials used and stored at the facility include fuel oil, sulfuric acid, sheet steel, lubricating and drawing oil, and numerous drummed chemicals. Fuel oil was contained in an underground storage tank (AOC #1), sulfuric acid in two above-ground storage tanks on the west side of the building, and drummed chemicals in a drum storage room (SWMU #2) which also stores hazardous waste. The following list presents product chemicals and their use (if known) used by GRM, as of 1977 (GRM, 1977).

<u>Chemical</u>	<u>Use</u>
Trichloroethylene	Degreasing
Hydrochloric acid	Parts washing
Sulfuric acid	Parts washing
Nitric acid	Parts washing
Hydrogen peroxide	Unknown
Flake soda & liquid Sodium hydroxide	Water treatment
Sodium Bisulfite	Water treatment
Sodium Bifluoride	Unknown
Boric acid	Unknown
Ammonium hydroxide	Unknown
Barium carbonate	Unknown
Calcium carbonate	Unknown
111 Electro cleaner	Parts washing
146 Oxy-prep cleaner	Parts washing
N326 Benchmark cleaner	Parts washing
F-2905 Benchmark activator	Parts washing
F-1810 Benchmark H ₂ SO ₄ cleaner	Parts washing
F-1810 Benchmark Caustic cleaner	Parts washing
Nickel Chloride	Plating
Nickel Salt (NiSO ₄)	Plating
Nickel Adjuster	Plating
Nickel Brt. 66BR and 611 Udyllite	Plating
Wetting Agent 62-A Udyllite	Unknown
F-2900 Benchmark	Unknown
F-1117 Benchmark Cleaner	Parts washing
CMS Chromium Plate addition	Plating
Cromylite 107 Adjuster Udyllite	Plating
Activated carbon	Unknown
Chrome mist reg.	Plating

During maximum production, 200 people were employed at the GRM facility but only 80 employees remained at the time of the VSI. The facility consists of a 220,000 square-foot building and a parking lot. The original structure, built in 1954, was expanded in 1976.

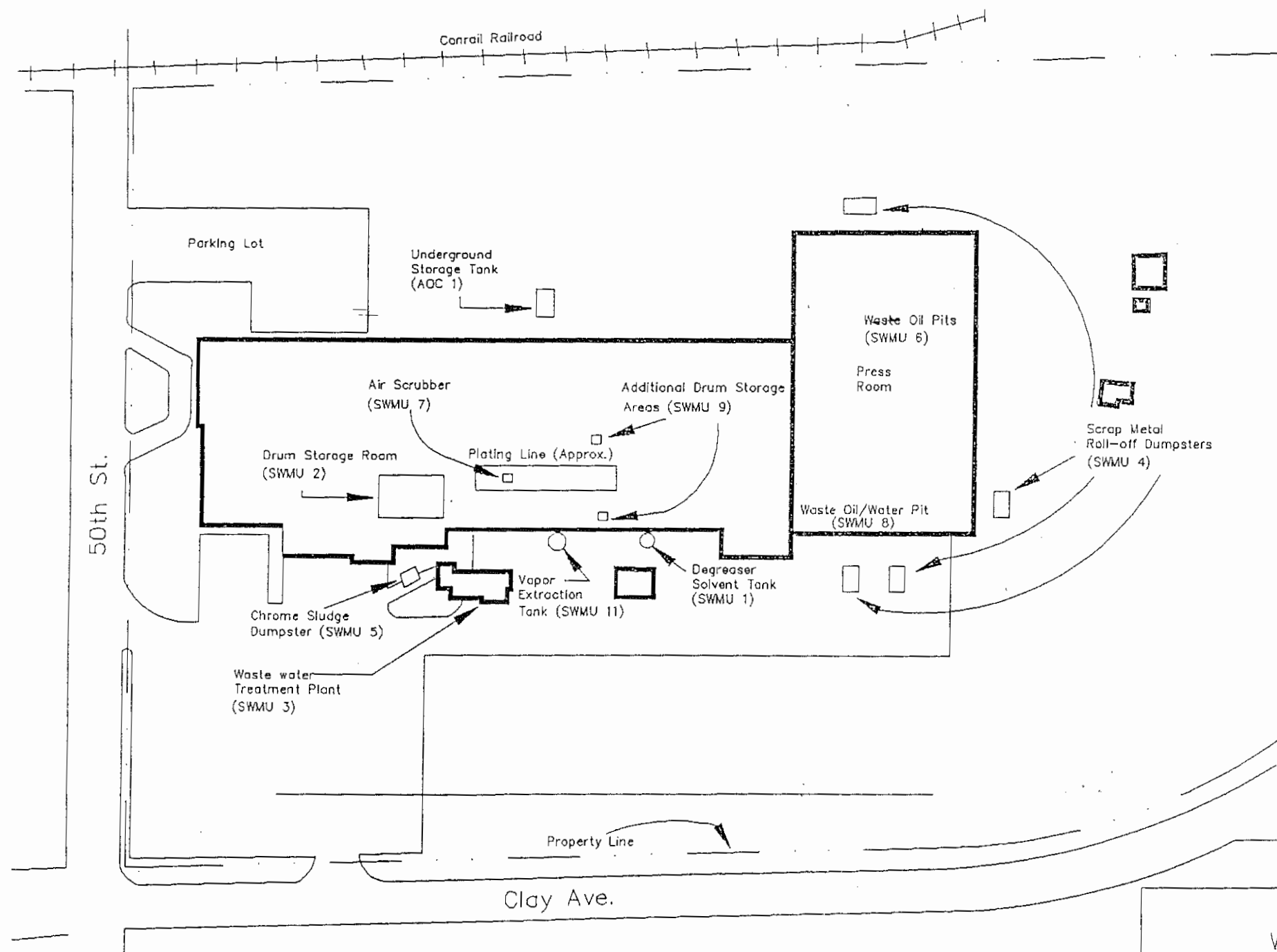
As noted previously, the metal stamping operation at GRM Industries was active at the time of the VSI. This operation required the use of the drum storage room (SWMU #2) to store incoming raw materials, the wastewater treatment plant (SWMU #3) to process industrial wastewater, the scrap metal roll-off dumpster (SWMU #4) to store scrap metal, waste oil pits (SWMU #6) to catch oil drippings from the presses, and the waste oil/water pit (SWMU #8) to clean dies. These five SWMUs were active at the time of the VSI.

The other SWMUs were associated with the chrome plating operation that had been shut down relatively recently. The degreaser solvent tank (SWMU #1) was used to clean parts and the chrome sludge dumpster (SWMU #5) was used to store chrome sludge. The air scrubber (SWMU #7) was used to prevent chrome particles from ending up in the roof drains and the additional drum storage areas (SWMU #9) were used for housing excess drums of waste from the drum storage room (SWMU #2) and staging raw materials for the chroming operation. The chrome sludge dumpster still held waste and the additional drum storage areas contained a total of about 20 drums. For this reason, these two SWMUs were considered active. The degreaser solvent tank and air scrubber had not been used for at least six months. For this reason, they were considered inactive. No SWMUs were known to have undergone closure procedures. Facility SWMUs are summarized in Table 1. The facility layout, including SWMUs and the AOC, is shown in Figure 2.

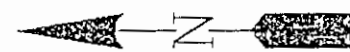
From 1954 to 1974, the site was occupied by Grand Rapids Brass, also known as Grand Rapids Metalcraft. Full production chrome plating operations began in the summer of 1955 and proceeded until GRM Industries purchased the facility in 1974. Additional details regarding the operations of Grand Rapids Brass were not available.

2.3 WASTE GENERATING PROCESSES

The primary waste streams generated at the GRM Industries facility are electroplating sludge, chrome plating drippings, degreaser solvent, chromic acid solution, strip solution, waste oil, scrap metal and waste oil/water mixture. These wastes are generated during the production of lightweight automotive parts. Wastes generated at the facility are discussed below and are summarized in Table 2. Generation rates



Note:
Dry Wells (SWMU 10) were located near the west wall of the
facility. Specific location is unknown.



Not to Scale

Source: GRM Industries Site Investigation
by Fishbeck, Thompson, Carr and Huber-(6/89)

GRM Industries
Wyoming, Michigan
PA/VSI

Figure 2
Facility Layout



TABLE 1
SOLID WASTE MANAGEMENT UNITS (SWMUs)

<u>SWMU Number</u>	<u>SWMU Name</u>	<u>RCRA Hazardous Waste Management Unit *</u>	<u>Status</u>
1	Degreaser Solvent Tank	Yes	Inactive
2	Drum Storage Room	Yes	Active
3	Waste Water Treatment Plant	No	Active
4	Scrap Metal Roll-Off Dumpster	No	Active
5	Chrome Sludge Dumpster	Yes	Active
6	Waste Oil Pits	No	Active
7	Air Scrubber	No	Inactive
8	Waste Oil/Water Pit	No	Active
9	Additional Drum Storage Areas	Yes	Active
10	Dry wells	No	Inactive
11	Vapor extraction tank	No	Inactive

* A RCRA hazardous waste management unit is one that currently requires or formerly required submittal of a RCRA Part A or Part B permit application.

TABLE 2
SOLID WASTES

<u>Waste/EPA Waste Code</u>	<u>Source</u>	<u>Primary Management Unit *</u>
Electroplating Sludge (F006)	Chroming Operation	2, 5, 9
Chrome Plating Drippings (F006)	Chroming Operation	3
1,1,1-Trichloroethane Degreaser Solvent (F001)	Vapor Degreaser	1, 2, 9
Chromic Acid Solution (D007)	Chrome from Scrubber	7
Strip Solution (F009)	Stripper	1, 2, 9
Waste Oil/Non-Hazardous	Metal Stamping Process	6
Scrap Metal/Non-Hazardous	Metal Stamping Process	4
Waste Oil/Water Mixture Non-Hazardous	Pre-Steam Cleaning	8

* Primary management unit refers to the SWMU that manages or formerly managed the waste.

presented were either estimated by facility personnel or taken from manifests and were based on production rates during the late 1980s.

Metal presses are used in the manufacture of metal parts from the raw steel. Nineteen of the 25 presses were in operation at the time of the VSI. Oil is required to lubricate the presses and also to help draw some of the parts as they are being pressed. This waste oil drips from the presses into waste oil collection pits (SWMU #6). The dies from the presses are periodically cleaned in the die steam cleaning room. This cleaning generates a waste oil/water mixture that is collected in a waste oil/water pit (SWMU #8). Safety Kleen Oil Services collects and recycles the waste oil and waste oil/water mixture approximately once a month. Approximately 25,000 gallons are collected annually.

The pressing operation also generates scrap metal (steel, aluminum). This metal is often covered with oil. The scrap metal is placed in a 20-cubic-yard roll-off dumpster (SWMU #4). Pandels, a firm from Grand Rapids, hauls away the contents once a month for recycling.

The chroming operation generated hazardous chrome plating drippings (F006) and electroplating sludge (F006). Bumper guards were dipped into 32 tanks containing acid, chrome, and nickel solutions. Excess acid, chrome, and nickel solutions would drip to the floor between tanks. These chrome plating drippings (F006) would be conveyed along the sloped floor to a network of collection troughs, and were then pumped to the waste water treatment plant (SWMU #3). During maximum production, up to 1,100 gallons per hour of chrome plating drippings were generated. These drippings, which were routed to the waste water treatment plant, underwent a four-step process. First, metals were precipitated from the solution. Second, treated water was discharged to the Publicly Owned Treatment Works (POTW) of Wyoming. Third, metal sludge was pumped to a filter press where the sludge was dewatered generating electroplating sludge (F006). Finally, the excess water from the dewatering process would go through the entire treatment process again (GRM, 1976).

The sludge produced by the chroming process was stored in several ways. The RCRA Part A Application (GRM, 1980) listed F006 as a hazardous waste that was stored in tanks (S02). This would indicate that at some point hazardous sludge was stored in a tank. However, neither company personnel nor records offered additional information to confirm the presence of and/or location of this potential SWMU. Instead, company personnel reported that this sludge was deposited in drums before 1989, in one-cubic-yard bags from 1989-1990, and most recently in the chrome sludge dumpster (SWMU #5). The bags and drums were stored in the drum storage room (SWMU #2), with overflow going to the additional drum storage areas (SWMU #9). The chrome sludge dumpster (SWMU #5) is located outside the main building, north

of the waste water treatment plant. The eight to ten drums of waste generated monthly were collected quarterly by Valley City Refuse Disposal. Envirite Corporation in Harvey, Illinois received this waste from 1989 to 1990, and before this time, Wayne Disposal in Belleville, Michigan received the waste.

The chroming operation generated an airborne particulate. An air scrubber (SWMU #7) was installed in 1963 in the ceiling above the chroming operation. There does not appear to be a permit for emissions from the scrubber, which was installed by the company in an effort to reduce chrome particulate buildup in roof drains. Prior to 1966, runoff drained to dry wells or the ground. Since 1966, roof drains have been connected to the Wyoming treatment system by means of a storm sewer installed for this purpose (MWRC, 1966). This scrubber generated a hazardous chromic acid solution (D007). Waste collected from the scrubber was drummed and stored in the drum storage room (SWMU #2). Valley City Refuse Disposal picked these drums up and transported them to Michigan City Disposal, Inc., in Belleville, Michigan. Generation rates were not available.

Stripping and vapor degreasing processes that were discontinued several years ago generated strip solution (F009) and degreaser solvent (F001). Facility personnel and records could not identify waste management practices. Information obtained from the Part A Application indicates an estimated 1,000,000 gallons of strip solution and 600,000 gallons of degreaser solvent were generated annually (GRM, 1980). Storage practices for both wastes are unclear; however, a facility map indicates the presence of a degreaser solvent tank (SWMU #1).

An additional input to the waste water treatment plant is waste water from two parts washers that are used in the processing of parts. Parts requiring chrome application or resistance welding are cleaned with a caustic soda solution and sometimes coated with iron phosphate. The cleaning solution is recycled for one year in the parts washer before being pumped to the on-site waste water treatment plant. Any waste generated from the treatment of this waste water would be included with the electroplating sludge (F006).

2.4 HISTORY OF DOCUMENTED RELEASES

This section discusses the history of documented releases to groundwater, surface water, and on-site soils at the GRM Industries facility.

The facility has caused numerous documented releases to soils and groundwater. Wyoming Township well field #3, a significant source of municipal water supply until the mid-1960's, was located about 500 feet west of the facility. In November 1955, hexavalent chromium was first detected in one of the

wells in this well field. The well field was immediately removed from the distribution system. The Michigan Water Resources Commission began investigation of the facility (then G.R. Brass) because of its high-volume chroming operation and close proximity to the well field. No other potential causes for this contamination were identified. Monitoring wells were installed between the facility and the well field, and soil samples were collected from near the facility (MWRC, 1956). The investigation identified sources of chromium release which were likely to have caused the well field contamination (MDNR, 1956). Wyoming Township brought suit against the facility in March of 1956, listing the following likely sources of chromium contamination:

- Leakage or overflow of chromium rinse water from the sewer line onto the ground
- Careless outdoor storage of emptied product drums containing chromium flakes and chromic acid
- Discharge from the moisture extractor on the chrome exhaust system leaking onto the ground

The Attorney General of the State of Michigan intervened in this matter later in that same month, and ordered the facility to correct the above mentioned problems (State of Michigan, 1956). The contaminated ground water was pumped out through a purge well, was treated, and discharged to Buck Creek. The facility carried out the order of the Attorney General by installing a new air scrubber, and stored drums more carefully. The sanitary sewer was inspected and maintained by Wyoming Township. No further releases were documented until 1963.

In 1963, ground water samples from the nearby well field again began to show the presence of hexavalent chromium (MWRC, 1963). A MWRC investigation identified chrome precipitate on the roof of the facility as the source. Roof drains conveyed runoff to dry wells and the water containing chrome leached into the groundwater (MWRC, 1963). The drains were temporarily routed to the sanitary sewers. On March 25, 1965, Grand Rapids Brass was ordered to construct, and direct all discharges to, a storm sewer tied into the Wyoming sanitary system (MWRC, 1965). Construction of this storm sewer was completed in May 1966 and all discharges were rerouted (MWRC, 1966). The waste water treatment plant (SWMU 3) was installed at about the same time, to relieve the burden of treatment from the Wyoming waste water treatment system. The purge well installed in 1956 was again put into service to remove contaminated water. After Lake Michigan water became Wyoming's municipal water source in 1966, no record was found of further investigation or cleanup of Wyoming Township well field #3.

A release to soils and groundwater was documented during a State of Michigan Water Quality Division inspection in April 1978 (MDNR, 1978). Final rinse water from the chrome plating line was found to be reaching a sump which collected air compressor cooling water. This water was being discharged to the ground. During the inspection, the discharge was rerouted to the on-site waste water treatment plant (SWMU #3). This action was considered acceptable by the inspector.

On February 22, 1989, during a MDNR RCRA compliance inspection, the inspector noted a scrap metal dumpster (SWMU #4) leaking oil onto soils (MDNR 1989). The MDNR ordered removal of the oil-soaked soil and modification of the scrap metal storage area to prevent future releases. Records indicate violations noted in the February 1989 RCRA inspection were corrected to the satisfaction of the MDNR. However, details of these remedial measures were not available. During the VSI, stains were also noted on the concrete and soil surrounding one of the dumpsters.

In May 1989, GRM Industries contracted Fishbeck, Thompson, Carr and Huber to conduct a facility environmental investigation. This environmental investigation included the installation of four monitoring wells, one subsurface boring, and three surface soil samples. Samples from the wells were analyzed for nickel, chromium, organics, and oil and grease. One well sample had 7.2 ppm hexavalent chromium and trichloroethylene at a level of 0.45 ppm.

Subsurface soil and soil boring samples were analyzed for total chromium and total nickel. Elevated nickel concentrations of 350 ppm were found in surface soils along the trench drain to the waste water treatment plant (SWMU #3). A soil boring under the plating line had a level of 170 ppm. Chromium levels in surface soils and soil borings ranged from 1.8 to 43 ppm. The highest levels were found in surface soil samples located along the trench drain to the waste water treatment plant (Fishbeck, Thompson, Carr, & Huber, 1989).

GRM Industries submitted a RCRA Part A application on October 16, 1980 (GRM, 1980). This application listed process codes for container storage (S01) of F001 and tank storage (S02) of F006 and F009. The application listed the following wastes: F001 - degreaser solvents and still byproducts, F006 - electroplating sludge after treatment, and F009 - strip solutions.

In September 1984, GRM Industries requested a change in status from a treatment, storage, or disposal (TSD) facility to a generator. The change of status request was approved in November 1984 (U.S. EPA, 1984). No record of any closure requirements or activities to affect this change was found.

In the past, GRM Industries has had RCRA compliance problems. RCRA compliance inspections were conducted by the MDNR in August 1982, August 1984, November 1985, November 1986, October 1987, February 1989, February 1990, and October 1991 (MDNR 1982, 1984, 1985, 1986, 1987, 1989, 1990, 1991). The problems noted in these inspections were the improper or lack of labeling of hazardous waste containers; no personnel training records; no emergency procedures or a contingency plan, no manifest for hazardous wastes, oil spillage, hazardous containers stored in the open; and chrome sludge (F006) was stored onsite for more than 90 days without a permit in 1991. Records indicate that the violations noted in 1984, 1985, 1986, 1987, and 1989 were corrected by GRM Industries; however, there are no records to indicate that the violations noted in 1982 and 1991 were corrected.

The facility is not required to have operating air permits. An air scrubber was installed above the chrome plating line in the 1950s to control vapors from the plating line. No air emissions compliance problems have been noted. In addition, no recorded complaints about the GRM Industries facility were noted from area-residents relative to odor or other air-related problems.

The facility is not required to have a National Pollutant Discharge Elimination System (NPDES) permit. All surface runoff and industrial process water from the facility is directed to the sanitary sewer that runs along the west side of the site. The process water consists primarily of water from the chroming operation. The facility was cited in 1964 for releasing excessive levels of chromium and cyanide to the sanitary sewer of the city of Wyoming (Wyoming, 1964). To remove the burden of treatment for these wastes from the city, the facility installed an on-site waste water treatment plant (SWMU #3) within two years. No compliance problems with this discharge to the sewer were noted. The facility was cited for contamination of municipal water supply in 1956 and 1965, and was issued orders to correct the sources of the releases.

2.6

ENVIRONMENTAL SETTING

This section describes the climate, flood plain and surface water, geology and soils, and ground water near the GRM Industries facility.

2.6.1 Climate

The climate in Kent County is continental. The average daily temperature is 47.5 F. The average wind velocity is 9.8 mph from the southwest. The average annual total precipitation is 34.35 inches with a 1-year, 24-hour rainfall maximum of 5.48 inches (National Weather Service, 1991).

2.6.2 Flood Plain and Surface Water

The GRM Industries facility is not located in a 100-year flood plain area (Wyoming Planning Department, 1991). The nearest surface water is a small creek, one-fifth of a mile south of the site. The small creek has no designated uses; however, this creek empties into Buck Creek soon after passing GRM Industries. Buck Creek runs closest to the site one-third mile southwest and is a designated trout stream. It also is used for swimming in nearby local parks (Wyoming Planning Department, 1991). Buck Creek continues north for approximately ten more miles and then joins the Grand River.

All storm water drainage and process water from the facility is routed to the municipal sewer system destined for treatment (GRM Industries, 1991). Storm water drained to dry wells (SWMU 10) or the ground until 1966, when a sewer line was built connecting roof drainage with the sanitary sewer of Wyoming (MWRC, 1966).

2.6.3 Geology and Soils

GRM Industries is located in Wyoming, Michigan, which lies in the western section of the area classified as the Grand River Basin. The Grand River Basin is underlain by a thick sequence of consolidated sediments of the Paleozoic age. The formations deposited are primarily composed of sandstone, limestone, dolomite and shale, but also include beds of salt, gypsum, anhydride, and coal. This bedrock is mantled by glacial deposits of unconsolidated clay, silt, sand, and gravel. These glacial deposits are covered in some places by organic sediments deposited in swamps, marshes and lakes left by receding glaciers. Aquifers in this basin are both unconsolidated (glacial) and consolidated (bedrock) and are some of the most important in the state. The glacial drift above the bedrock in this area is generally less than 100

feet thick and is predicted to be approximately 70 feet thick at the GRM Industries facility. The Michigan Formation is the bedrock unit underlying most of the Grand River Basin, where Wyoming is located (U.S. Army Engineers, 1970). The Michigan Formation is not an important source of water; however, poor quality water in this unit tends to migrate to other stratigraphic units as they developed into water supplies. The topography ranges from level to steep. Some higher elevations have been leveled while depressions have been filled. More than 80% of the land surface is covered by buildings and pavement. Soils in the immediate area of GRM Industries are classified as Urban Land. Approximately 10 to 20 percent of the soil is classified as well-drained Perrinton and Spinks Soil (U.S. Dept of Agriculture, 1986).

One oil well and numerous water wells are located within one-half mile of the site. The oil well log and one water well log put the glacial drift thickness between 80 and 128 feet and showed lithologies of the bedrock as listed previously. Numerous water well logs indicated sand in the upper 10 feet and sand and gravel deposits down to at least 40 feet. It appears to be mainly clay between the bottom of the sand and gravel and the bedrock surface. An environmental liability study conducted by Fishbeck, Thompson, Carr and Huber in 1989 included four monitoring wells. Logs of these wells showed the material underlying the facility to be a sand and gravel unit at least 28 feet thick. The logs placed the unconfined water table at 15 to 20 feet below the surface (Fishbeck, Thompson, Carr, & Huber, 1989).

2.6.4 Ground Water

The Michigan Formation, which underlies the Town of Wyoming, is not a primary source of water. However, it is known that water of poor quality from the basin has migrated into other aquifers when they are developed as water supplies. The Michigan formation contains gypsum (calcium sulfate), which is soluble. Calcium makes the water very hard and the sulfates contribute a purgative effect. Hence, the water is used sparingly in Kent County. The water also contains sufficient concentrations of sodium chloride to make it corrosive to piping, further limiting its use. Generally, most wells do not yield more than a few gallons per minute. However, local solution cavities in gypsum zones have yielded large quantities of water (U.S. Army Engineers, 1970). The Grand Rapids Metropolitan community is currently supplied with water from Lake Michigan (approximately 50 miles west) and all Wyoming Township wells are no longer used (MDNR, 1986). However, previously a number of Wyoming Township wells tapped into well field #3 near the GRM Industries facility. All but one of these wells were relatively shallow (less than 56 feet deep). The standing water level recorded in these wells in 1963 was between 10 and 25 feet below the surface. Wells installed in 1989 had a ground water level at 15 to 20 feet below the surface (Fishbeck, Thompson, Carr & Huber, 1989). A few privately owned wells exist near the facility. Wyoming Township officials assume the primary use of this ground water is lawn-watering, because natural water quality is poor (Wyoming, 1991).

The GRM Industries facility occupies 16.5 acres in a residential/industrial area in Wyoming, Michigan. Wyoming has a population of about 64,000.

The GRM Industries facility is bordered on the north by Gordon Food Processing, on the west by the Gordon Food Processing parking lot, on the south by a residential area and on the east by a cement factory. The nearest school, Kelloggsville Southwest School, is located about one third of a mile southeast of the facility. Facility access is controlled by a fence surrounding the property, an electronic protection system, and a security guard on duty from 2:00 p.m. until 7:00 a.m. daily.

The nearest surface water is a small unnamed creek one-fifth of a mile south of the site. The creek empties into Buck Creek downstream from GRM Industries. At its closest point, Buck Creek flows one-third a mile southwest of the facility. Buck Creek is used for recreational purposes and is also a designated trout stream. Other surface water bodies in the area include the Grand River, which is about 10 miles north of the facility.

At least 15 years ago the Grand Rapids Metropolitan Community stopped using groundwater from municipal wells and began to use water from Lake Michigan. Groundwater use is assumed by Wyoming Township to be minimal. The 50th Street Well Field (no longer in use) lies upgradient (to the north) of the facility (MDNR Groundwater Quality Division, 1986).

No sensitive environments are located on the facility property. The nearest wetland area is one and a half miles west of the facility. No critical habitats or state or national parks were identified within two miles of the facility.

3.0 SOLID WASTE MANAGEMENT UNITS

This section describes the nine SWMUs identified during the PA/VSI. The following information is presented for each SWMU: description of the unit, dates of operation, wastes managed, release controls, history of documented releases, and BVWST observations. Figure 2 shows the SWMU locations.

SWMU #1

Degreaser Solvent Tank

Unit Description:

The degreaser solvent tank is outside, next to the west edge of the main building, near the plating area. Facility personnel stated that the unit managed degreaser solvent (F001) or strip solution (F009), but were unsure of the what the tank last managed. The unit is an upright cylindrical tank approximately 20 feet in height and 4 feet in diameter (Photo 1). It is mounted on a small concrete pad. The construction material appeared to be steel because of the rust on the tank. Facility personnel did not provide further information requested concerning the use of the tank.

Date of Startup:

The date this unit began operating is unknown. The earliest date that it could have been installed is 1954, when the facility was built.

Date of Closure:

Facility personnel stated that this unit was inactive. They were unsure of its contents, if any. Information regarding the closure date or procedures could not be obtained.

Wastes Managed:

This unit probably managed trichloroethane (F001) and/or strip solution (F009), but this could not be confirmed by company officials.

Release Controls:

The unit is outdoors on a small concrete pad (five feet by five feet) on the west edge of the main building. No release controls or secondary containment were noted.

History of Documented Releases:

No releases from this unit have been documented.

Observations: The exterior of the unit is rusty and deteriorating. No evidence of release was observed.

SWMU #2 Drum Storage Room

Unit Description: This unit is in the northern portion of the main building. It is an interior store room with a concrete floor, approximately 75 feet by 40 feet. This unit has been used for the storage of wastes as well as for storage of numerous incoming raw materials (Photo 2).

Date of Startup: The date this unit began operating is unknown, but it may have been installed in 1955 when the facility was built.

Date of Closure: This unit is active.

Wastes Managed: This unit managed electroplating sludge (F006), degreaser solvent (F001), chromic acid (D007), and strip solution (F009) in 55-gallon drums. Occasionally electroplating sludge (F006) was managed in one-cubic-yard bags. Wastes from this unit were hauled away by a disposal service. Facility personnel did not provide information requested regarding contents of on-site drums stored in this unit.

Release Controls: This unit is inside the main building. The floor of the building is concrete.

History of Documented Releases: No releases from this unit have been documented.

Observations: During the VSI this unit contained product materials including sheet steel, and several drums with unknown contents. Facility personnel did not provide further information requested regarding drum contents or storage of hazardous wastes in this unit. The concrete pad was clean and appeared to be in sound condition, and no floor drains were noted within or near this unit. No evidence of release was observed.

SWMU #3**Waste Water Treatment Plant****Unit Description:**

This unit consists of concrete chroming troughs, a trench drain, seven steel treatment tanks lined with PVC, and a filter press. The total volume of the treatment tanks is about 40,000 gallons. The treatment tanks and filter press are located in a separate building about 40 feet west of the main building. The unit has been responsible for the treatment of chrome plating drippings (F006) as well as waste water from parts washing operations. The concrete block building which houses the treatment tanks and filter press measures approximately 100 feet by 40 feet. The exterior of the treatment plant was viewed at the time of the VSI (Photo 3). Details requested regarding the interior of the plant and other construction materials were not provided by facility personnel. Treatment performed in the plant consists of pH adjustment, flocculation and precipitation of solids, and pressing of sludge through a filter press.

Date of Startup:

The unit began operation sometime after 1966.

Date of Closure:

The unit is active.

Wastes Managed:

This unit managed chrome plating drippings (F006) and electroplating sludge (F006) as well as parts washing waste water. The electroplating sludge (F006) generated from this SWMU was stored in bags, drums (SWMU #2), or a dumpster (SWMU #5) and then hauled away by a disposal service. No plating drippings are being generated at the plant; however, the plant is still used to process waste water from the two parts washers.

Release Controls:

This unit is inside its own building. Tanks have electronic level alarms and the concrete floor has secondary containment with a capacity of 3000 gallons (GRM, 1976).

**History of Documented
Releases:**

No releases from this unit have been documented. Soil sampling near the trench drain in 1989 showed elevated levels of nickel and chromium, but it is possible that this is the result of another source.

Observations:

During the VSI the waste water treatment plant's interior process area was inaccessible and could not be viewed. The trench drain was covered with sheet metal, but appeared to be made of concrete. Facility personnel could not offer any details regarding the status of the unit. The exterior was in a shabby but not deteriorating condition. No evidence of a release was noted in the soil surrounding the unit.

SWMU #4

Scrap Metal Roll-off Dumpster

Unit Description:

This unit is comprised of four, 20-cubic-yard steel dumpsters located outdoors; two are located west of the metal stamping addition, one is located east of it, and one to the south of it (Photo 4). The dumpsters hold scrap metal coated with oil that is waiting to be hauled away for recycling. The dumpsters to the south and east were set on concrete pads; those to the west were set on bare soil.

Date of Startup:

The date this unit began operating is unknown, but was most likely installed in 1976 when the press room was built by GRM Industries.

Date of Closure:

The unit is active.

Wastes Managed:

This unit manages scrap metals, which are periodically picked up for recycling.

Release Controls:

Two of the steel dumpsters are located on a concrete slab. The other two are located on the unprotected ground. No other release controls were noted.

**History of Documented
Releases:**

In February 1989, a RCRA compliance inspection by the MDNR, noting a scrap metal dumpster leaking oil onto adjacent soils. The report stated that the affected soil must be removed and the area modified to ensure that similar future incidents would not occur (MDNR, 1989). Records indicate that the violations noted in the February 1989 inspection were corrected; however, the details of these corrections could not be found.

Observations:

All dumpsters were approximately half full of scrap metal. The south and east areas appeared to be clean and free of contamination. The west area was noticeably contaminated with an oily residue, primarily on the concrete area but also on the dirt area.

SWMU #5

Chrome Sludge Dumpster

Unit Description:

This unit is a 20-cubic-yard steel dumpster, located 15 feet north of the WWTP (Photo 5). The unit holds electroplate sludge (F006) that is waiting to be hauled away. The dumpster was located on the soil and covered with a tarp.

Date of Startup:

This unit began operating in late 1990.

Date of Closure:

This unit is active.

Wastes Managed:

This unit manages dewatered electroplating sludge (F006). Wastes from this unit are picked up by a disposal service.

Release Controls:

This unit is on unprotected ground. The top of the dumpster is covered with a tarp.

**History of Documented
Releases:**

No releases from this unit have been documented.

Observations: The dumpster was full of dewatered sludge and was covered with a tarp to protect it from rain. Based on the October 31, 1991, RCRA compliance inspection, this dumpster has been onsite for more than 90 days. The unit appeared to be in sound condition. No visible evidence of release was observed.

SWMU #6

Waste Oil Pits

Unit Description: This unit is comprised of about 20 concrete pits of various sizes under the floor of the main building beneath each of the metal stamping presses. The pits are used to collect oil drippings from the metal stamping presses that are located above. The pits are made of concrete (Photo 6).

Date of Startup: The date this unit began operating is unknown, but it was most likely installed in 1976 when the press room was built by GRM Industries.

Date of Closure: The unit is active.

Wastes Managed: This unit manages non-hazardous waste oils. Wastes from this unit are periodically drummed and are collected by a recycling service.

Release Controls: No release controls were noted.

History of Documented Releases: No releases from this unit have been documented.

Observations: The pits were viewed from the ground floor of the building because safe access to them was not available. The whole metal stamping operation area was covered with a thin film of oil. The areas near the presses had the greatest amount of oil. The unit could not be examined closely enough to assess evidence of release.

SWMU #7**Air Scrubber**

Unit Description: The air scrubber is in the ceiling above the plating line. It was responsible for removing chrome particulates from the air so that they would not be exhausted and deposited in the roof drains. From ground level, the unit appeared to be made of steel measuring approximately 30 feet by 10 feet by 15 feet in size (Photo 7). Facility personnel did not provide further information requested regarding operation of the unit.

Date of Startup: This unit began operations in October 1964.

Date of Closure: This unit has been inactive since March 1991.

Wastes Managed: This unit managed chromic acid solution (D007). Wastes from this unit would be drummed, stored in the drum storage room (SWMU #2), and hauled away by a disposal service.

Release Controls: The chroming operation troughs beneath the unit provide secondary containment. Any spills would flow into SWMU 3 for treatment.

History of Documented Releases: No releases from this unit have been documented.

Observations: The unit was viewed from the ground floor only. The unit appeared to be in good condition. No evidence of release was noted.

SWMU #8**Waste Oil/Water Pit**

Unit Description: This unit is a concrete pit located beneath the floor of the northwestern side of the press room building. The pit is below a large room partitioned off by a plastic curtain on one side and by concrete walls on the other three sides. This area is used to steam clean the dies which are used in the stamping operation. The pit collects the waste oil/water mixture that is

SWMU #7**Air Scrubber**

Unit Description: The air scrubber is in the ceiling above the plating line. It was responsible for removing chrome particulates from the air so that they would not be exhausted and deposited in the roof drains. From ground level, the unit appeared to be made of steel measuring approximately 30 feet by 10 feet by 15 feet in size (Photo 7). Facility personnel did not provide further information requested regarding operation of the unit.

Date of Startup: This unit began operations in October 1964.

Date of Closure: This unit has been inactive since March 1991.

Wastes Managed: This unit managed chromic acid solution (D007). Wastes from this unit would be drummed, stored in the drum storage room (SWMU #2), and hauled away by a disposal service.

Release Controls: The chroming operation troughs beneath the unit provide secondary containment. Any spills would flow into SWMU 3 for treatment.

History of Documented Releases: No releases from this unit have been documented.

Observations: The unit was viewed from the ground floor only. The unit appeared to be in good condition. No evidence of release was noted.

SWMU #8**Waste Oil/Water Pit**

Unit Description: This unit is a concrete pit located beneath the floor of the northwestern side of the press room building. The pit is below a large room partitioned off by a plastic curtain on one side and by concrete walls on the other three sides. This area is used to steam clean the dies which are used in the stamping operation. The pit collects the waste oil/water mixture that is

SWMU #7**Air Scrubber**

Unit Description: The air scrubber is in the ceiling above the plating line. It was responsible for removing chrome particulates from the air so that they would not be exhausted and deposited in the roof drains. From ground level, the unit appeared to be made of steel measuring approximately 30 feet by 10 feet by 15 feet in size (Photo 7). Facility personnel did not provide further information requested regarding operation of the unit.

Date of Startup: This unit began operations in October 1964.

Date of Closure: This unit has been inactive since March 1991.

Wastes Managed: This unit managed chromic acid solution (D007). Wastes from this unit would be drummed, stored in the drum storage room (SWMU #2), and hauled away by a disposal service.

Release Controls: The chroming operation troughs beneath the unit provide secondary containment. Any spills would flow into SWMU 3 for treatment.

History of Documented Releases: No releases from this unit have been documented.

Observations: The unit was viewed from the ground floor only. The unit appeared to be in good condition. No evidence of release was noted.

SWMU #8**Waste Oil/Water Pit**

Unit Description: This unit is a concrete pit located beneath the floor of the northwestern side of the press room building. The pit is below a large room partitioned off by a plastic curtain on one side and by concrete walls on the other three sides. This area is used to steam clean the dies which are used in the stamping operation. The pit collects the waste oil/water mixture that is

generated. The floor is concrete. Since the pit was imbedded in the floor, only the top two feet by two feet opening could be observed (Photo 8).

Date of Startup: The date this unit began operating is unknown, but it may have been installed in 1976 when the press room was built by GRM Industries.

Date of Closure: The unit is active.

Wastes Managed: This unit manages a non-hazardous waste oil/water mixture, which is periodically pumped out into drums and is hauled off for recycling.

Release Controls: No release controls were noted.

History of Documented Releases: No releases from this unit have been documented.

Observations: The whole area was covered with a thick, black oily substance and miscellaneous metal scraps. The pit appeared to contain some waste oil/water mixture. The unit is below the floor surface and, as such, the condition of the concrete, etc. could not be observed.

SWMU #9

Additional Drum Storage Areas

Unit Description: These two small areas are in the main building in a large room that houses the plating line. The unit stores drums of waste when the drum storage area (SWMU #2), is filled to capacity. It also serves as a staging area for raw materials used for various production processes at the facility. Each area is approximately 15 feet by 15 feet. The floor of each area is concrete. The eastern area is enclosed by a chain-link fence (Photo 9).

Date of Startup: The date this unit began operating is unknown, but it may have been installed in 1955 when the facility was built.

Date of Closure: The unit is active.

Wastes Managed: This unit has been involved in the management of excess drummed wastes from the drum storage room (SWMU #2). These wastes include electroplating sludge (F006), 1,1,1-trichloroethane degreaser solvent (F001), chromic acid solution (D007), and strip solution (F009). These wastes awaited pickup and disposal off-site.

Release Controls: The floor below this unit is concrete. It is inside the main building. No other release controls were noted.

History of Documented Releases: No releases from this unit have been documented.

Observations: Both areas were clean and no visible evidence of release was observed. Three drums were present in the western area and approximately ten drums were present in the eastern area. Information regarding the contents of the drums was not provided by facility personnel, but they believed them to contain product. No floor drains were noted within or near these areas.

SWMU #10 Dry Wells

Unit Description: The dry wells were located near the west side of the facility, and allowed roof drainage to leach into the groundwater (Warner, Norcross, and Judd, 1957). Facility personnel were unable to provide further information regarding the construction and location of this unit.

Date of Startup: The startup date of this unit is unknown, but may have been as early as 1955.

Date of Closure: The unit has been inactive since 1966, when all roof drains were routed to the sanitary sewer.

Wastes Managed: The unit managed storm water runoff from the roof of the facility.

Release Controls: The unit had no release controls.

History of Documented Releases:

The company was cited in 1963 for allowing chrome residue from this unit to leach into the ground water and contaminate the nearby municipal well field (MWRC, 1963). This led to the installation of a storm sewer to allow roof drainage to flow to the sanitary sewer.

Observations:

The west side of the facility was viewed during the VSI, but no evidence of the former location of the unit was noted.

SWMU #11

Vapor Extraction Tank

Unit Description:

The unit was located on the ground near the west side of the facility (Wyoming Township, 1956). The unit collected liquid which condensed from the exhaust vapors from the chrome plating line. Little else is known about the operation or construction of the tank.

Date of Startup:

The startup date of this unit is unknown, but may have been as early as 1955.

Date of Closure:

The unit has been inactive since 1957.

Wastes Managed:

The unit managed liquid waste from plating line exhaust. This waste was known to contain chrome (F006), but little is known of other constituents which may have been present.

Release Controls:

The unit had no release controls.

History of Documented Releases:

The unit was listed a likely cause of contamination of the nearby municipal well field. Soil samples from beneath the unit showed elevated levels of chromium contamination (MWRC, 1956).

Observations:

The west side of the facility was viewed during the VSI, but no evidence of the former location of the unit was noted.

4.0 AREAS OF CONCERN

BVWST identified one AOC during the PA/VSI as described below.

AOC 1 Underground Storage Tank

An 18,000-gallon underground storage tank (UST) is about 75 feet east of the main building. Details regarding the installation and status of the tank could not be determined. The contents of the tank are unknown; however, old maps indicate it contained fuel oil. Because no other information was available regarding the age or status of this UST, it is an AOC that has potential for release to the soil and ground water (ground water table is approximately 15-20 feet below surface).

5.0 CONCLUSIONS AND RECOMMENDATIONS

The PA/VSI identified eleven SWMUs and one AOC at the GRM Industries facility. Background information on the facility's location, operations, waste-generating processes, history of documented releases, regulatory history, environmental setting, and receptors is presented in Section 2.0. SWMU-specific information, such as the unit's description, dates of operation, wastes managed, release controls, history of releases, and observed condition, is discussed in Section 3.0. Table 3 identifies the SWMUs at the GRM Industries facility and suggested further actions. BVWST's conclusions and recommendations for each SWMU and AOC follow.

SWMU #1 Degreaser Solvent Tank

Conclusions: The past and possible current contents of this tank could not be determined. It may have contained degreaser solvent (F001) and/or strip solution (F009). Air contamination potential is low because chemicals are contained in a tank. Surface water contamination potential is low because all surface runoff is directed to a sanitary sewer. If the tank is full, it may soon rust out and its contents will leak directly onto the soil. The potential for contamination of the soil from the degreaser solvent tank is moderate due to the tank's poor condition and lack of secondary containment. Potential ground water contamination is low to moderate due to the presence of sand and gravel in the soil and the proximity of depth to ground water (15 to 20 feet below grade).

Recommendations: The tank should be emptied and removed, consistent with MDNR and EPA requirements.

SWMU #2 Drum Storage Room

Conclusions: This indoor storage area appeared to be free of gross contamination and is underlain by a concrete floor. Air contamination potential is low because all drums are sealed. The concrete floor makes surface water, ground water, and soil contamination potential low.

Recommendation: The area should be inspected to ensure that drums were removed consistent with RCRA regulations. If drums are present, contents should be characterized, and the drums removed.

SWMU #3 Waste Water Treatment Plant

Conclusions: Air pollution potential is low because the unit is in a building with few vents to the environment. Surface water contamination potential is low because all surface runoff is directed to a sanitary or sewer. The potential of a release to ground water and on-site soils from the waste water treatment plant is moderate because the trench drain was not tightly covered.

Recommendations: Clean the unit, consistent with MDNR and EPA requirements. Further soil sampling near the trench drain should be conducted.

SWMU #4 Scrap Metal Roll-off Dumpster

Conclusions: The eastern and southern dumpsters have low contamination potential to surface water and groundwater because they are on concrete pads. The western area exhibits the presence of oil on the soil surface. Surface water contamination potential is low because of small quantities of oil and distance to surface water. Air contamination potential is low because of the low volatility of lubrication oil. Groundwater contamination potential is moderate due to shallow water table.

Recommendations: Sample the ground water in the vicinity to determine if any contamination exists. Sample the nearby soil to delineate the extent of soil contamination. The area should then be remediated to remove all oil contamination.

TABLE 3
SWMU AND AOC SUMMARY

<u>SWMU</u>	<u>Operational Dates</u>	<u>Evidence of Release</u>	<u>Suggested Further Action</u>
1. Degreaser Solvent Tank	1955 to ?	None	Clean and remove the tank during closure
2. Drum Storage Area	1955 to present	None	None
3. Waste Water Treatment Plant	1955 to present	1989 sampling	Clean the unit and sample soil
4. Scrap Metal Roll-off Dumpster	1976 to present	Visible soil contamination	Clean the area and sample the soil
5. Chrome Sludge Dumpster	1990 to present	None	RCRA closure
6. Waste Oil Pits	1976 to present	None	Clean the pits during closure
7. Air Scrubber	1964 to 1991	None	None
8. Waste Oil/Water Pit	1976 to present	None	Clean the area and sample the soil
9. Additional Drum Storage Areas	1955 to present	None	None
10. Dry Wells	? to 1966	1963 chrome contamination	Locate and sample soil
11. Vapor Extraction Tank	? to 1956	1955 sampling results	Locate and sample soil

<u>AOC</u>	<u>Operational Dates</u>	<u>Evidence of Release</u>	<u>Suggested Further Action</u>
1. Underground Storage Tank	? to present	None	Tank removal and soil sampling

SWMU #5 Chrome Sludge Dumpster

Conclusions: Because the dumpster appears to be in good condition and covered with a tarp, the potential for release to air, surface water, and groundwater is low. The potential for impacted soil beneath the dumpster is moderate due to possible leaching of contamination onto the unprotected ground.

Recommendations: The dumpster, filled with waste, has been on-site for more than 90 days. Therefore, this unit must undergo RCRA closure, which includes sampling of the soil.

SWMU #6 Waste Oil Pits

Conclusions: Because the pits are located beneath the concrete floor in the main building, air and surface water contamination potential is low. Information regarding the condition of the pits or their release controls could not be obtained; therefore, potential for groundwater and soil contamination could not be assessed.

Recommendation: The integrity of the pits should be determined and the pits should be cleaned.

SWMU #7 Air Scrubber

Conclusions: The scrubber is in the ceiling of the main building. The potential for release to the groundwater, on-site soils, and surface water is low because the unit was contained within the building and is no longer operational. The potential for release to the air is low because the unit is no longer operational.

Recommendation: No further action is suggested.

SWMU #8 Waste Oil/Water Pit

Conclusions: Air contamination potential is low because the unit is contained in an enclosed section of the main building and the materials are of low volatility. Surface water contamination potential is low because all surface water runoff is routed to the sanitary or storm sewers. Information regarding the condition of the pit and its release controls could not be obtained; therefore, potential for release to the groundwater and soil could not be assessed.

Recommendations: The pit and surrounding area should first be inspected and integrity-tested and then cleaned before GRM Industries leaves the facility.

SWMU #9 Additional Drum Storage Areas

Conclusions: These areas are in the main building and are underlain by a concrete floor. Wastes were stored in drums. The potential for contamination of air, surface water, on-site soils and groundwater is low.

Recommendation: The area should be inspected to ensure that drums were removed consistent with RCRA regulations. If drums are present, contents should be characterized, and the drums removed.

SWMU #10 Dry Wells

Conclusions: These 2 areas near the west side of the facility received roof runoff containing chrome, and were documented as a source of contamination of the nearby well field in 1963. Facility personnel were unable to provide information regarding the location or construction of these areas.

Recommendations: These areas should be located and the soil sampled for chrome to determine whether they pose a threat to human health and the environment.

SWMU #11 Vapor Extraction Tank

Conclusions: This tank was located on the bare ground near the west wall of the facility. The unit was cited in 1956 as a source of chromium contamination of the nearby municipal well field. No evidence of its former location was noted during the VSI.

Recommendations: The former location of this tank should be determined, and the soil should be sampled to determine if a threat to human health and the environment exists.

AOC 1 Underground Storage Tank

Conclusions: Surface water contamination potential is low because the unit is not in close proximity to surface water. Because the unit is underground, the risk for air contamination is low. The contents and integrity of the tank are unknown; therefore, the potential for soil and groundwater contamination is moderate.

Recommendation: The underground storage tank should first be integrity-tested. If a release is suspected, soil sampling should be done to confirm contamination and determine extent.

REFERENCES

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- MDNR Groundwater Quality Division 1986. Site Description/Executive Summary of Grand Rapids Brass Company Site, May 28, 1986.
- MDNRb, 1989. Letter from MDNR to Al Fox at GRM Industries, February 27, 1989.
- MDNRc 1982, 1984, 1985, 1986, 1987, 1989, 1990, 1991. RCRA Compliance inspections conducted by Tom Sampson, Elizabeth Bols, Dale Dekraker, or Ronald Waybrandt of MDNR on 8/25/82, 8/6/84, 11/5/85, 11/13/86, 10/9/87, 2/21/89, 2/90, and 10/31/91.
- MWRC, 1956. Michigan Water Resources Commission. Drawing of Well field #3 contamination investigation area.
- MWRC, 1963. Internal memo from R.J. Courchaine to R.W. Purdy. September 24.
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- MWRC, 1965. Notice of determination and hearing. Proceedings against Grand Rapids Brass. January 21.
- MWRC, 1966. Internal memo from R.J. Courchaine to C. Harvey. May 19.
- National Weather Service, 1991. Phone call to National Weather Service at Kent County Airport, November 7, 1991.
- State of Michigan, 1956. Circuit Court of Kent County. Bill of complaint against Grand Rapids Brass.
- State of Michigan, Water Quality Division, 1965. Proceedings against GR Brass.
- State of Michigan, Water Quality Division, 1978. Letter from C. E. Mogg (Michigan) to Mr. Cino (GRM), April 11, 1978.
- U. S. Army Corp of Engineers, 1970. Comprehensive Water Resources Study for Grand River Basin.

U. S. Department of Agriculture, 1986. Soil Survey of Kent County, Michigan.

U. S. EPA, 1984. Letter from U.S. EPA to GRM Industries confirming change in status, November 26, 1984.

Warner, Norcross, and Judd, 1957. Letter from Warner, Norcross, and Judd, attorneys at law to W.J. Halliday. February 11.

William & Works Engineers and Surveyors, 1956. Report regarding field investigation by William & Works, March, 1956.

Wyoming, 1964. Letter from City Engineer to GR Brass, May, 1964.

Wyoming, 1991. Phone call to Carl Berger, City of Wyoming, November 27, 1991.

Wyoming Planning Department, 1991. Phone call to Neal Vandermoss at Wyoming Planning Department, November 20, 1991.

ATTACHMENT A

EPA PRELIMINARY ASSESSMENT FORM 2070-12



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE MI	02 SITE NUMBER MID 005356125
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II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site) GRM Industries		02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER 420 50th Street SW			
03 CITY Wyoming	04 STATE MI	05 ZIP CODE 49508	06 COUNTY Kent	07 COUNTY CODE	08 CONG DIST
09 COORDINATES: LATITUDE 42° 52' 108" N		LONGITUDE 85° 40' 303" W			
10 DIRECTIONS TO SITE (Starting from nearest public road) Take Division Street south from 28th street. Take a right on 50th Street and go 4 blocks to facility.					

III. RESPONSIBLE PARTIES

01 OWNER (if known) GRM Industries		02 STREET (Business, mailing residential) 420 50th Street SW			
03 CITY Wyoming	04 STATE MI	05 ZIP CODE 49508	06 TELEPHONE NUMBER (616) 285-2460		
07 OPERATOR (if known and different from owner) Same		08 STREET (Business, mailing, residential)			
09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER		
13 TYPE OF OWNERSHIP (Check one) <input checked="" type="checkbox"/> A. PRIVATE <input type="checkbox"/> B. FEDERAL: _____ (Agency Name) <input type="checkbox"/> C. STATE <input type="checkbox"/> D. COUNTY <input type="checkbox"/> E. MUNICIPAL <input type="checkbox"/> F. OTHER _____ (Specify) <input type="checkbox"/> G. UNKNOWN					
14. OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply) <input checked="" type="checkbox"/> A. RCRA 3010 DATE RECEIVED: 10/16/80 <input type="checkbox"/> B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: ____/____/____ <input type="checkbox"/> C. NONE MONTH DAY YEAR MONTH DAY YEAR					

IV. CHARACTERIZATION OF POTENTIAL HAZARD

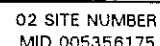
01 ON SITE INSPECTION <input checked="" type="checkbox"/> YES DATE 11/15/91 <input type="checkbox"/> NO		BY (Check all that apply) <input type="checkbox"/> A. EPA <input checked="" type="checkbox"/> B. EPA CONTRACTOR <input type="checkbox"/> C. STATE <input type="checkbox"/> D. OTHER CONTRACTOR <input type="checkbox"/> E. LOCAL HEALTH OFFICIAL <input type="checkbox"/> F. OTHER: _____ (Specify)	
CONTRACTOR NAME(S): B&V Waste Science and Technology Corp.			
02 SITE STATUS (Check one) <input checked="" type="checkbox"/> A. ACTIVE <input type="checkbox"/> B. INACTIVE <input type="checkbox"/> C. UNKNOWN		03 YEARS OF OPERATION 1954 1992 <input type="checkbox"/> UNKNOWN BEGINNING YEAR ENDING YEAR	
04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED Oil from metal stamping presses, chrome sludge from chrome plating line, strip solution, degreaser solvent, nickel and chrome from chrome plating line, fuel oil from underground storage tank.			
05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION Oil, chrome and nickel, strip solution, degreaser solvent, and fuel oil all have some potential to migrate to ground water. Ground water and on-site soils have documented chromium contamination. However, ground water is not heavily utilized in the vicinity. Surface water and air contamination potential should be negligible.			

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents.) <input type="checkbox"/> A. HIGH (Inspection required promptly) <input type="checkbox"/> B. MEDIUM (Inspection required) <input type="checkbox"/> C. LOW (Inspect on time-available basis) <input type="checkbox"/> D. NONE (No further action needed; complete current disposition form)			
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VI. INFORMATION AVAILABLE FROM

01 CONTACT Kevin Pierard	02 OF (Agency/Organization) U.S. EPA		03 TELEPHONE NUMBER (312) 886-4448	
04 PERSON RESPONSIBLE FOR ASSESSMENT Pete Wolsko	05 AGENCY BVWST	06 ORGANIZATION	07 TELEPHONE NUMBER (312) 346-3775	08 DATE 02/05/92 MONTH DAY YEAR



☒ A. TOXIC ☐ H. IGNITABLE
☐ B. CORROSIVE ☐ I. HIGHLY VOLATILE
☐ C. RADIOACTIVE ☐ J. EXPLOSIVE
☒ D. PERSISTENT ☐ K. REACTIVE
☐ E. SOLUBLE ☐ L. INCOMPATIBLE
☐ F. INFECTIOUS ☐ M. NOT APPLICABLE
☐ G. INFLAMMABLE

EPA FORM 2070-12(17-81)



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE
MI

02 SITE NUMBER
MID 005356175

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION

02 ☒ OBSERVED (DATE: 1955, 56, 63, 65, 89)

☒ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____

04 NARRATIVE DESCRIPTION

Chromium contamination in groundwater due to Grand Rapids Brass (former owner) has been documented (1955 and 1965). Additional contamination from GRM Industries may occur if adequate measures are not taken.

01 ☐ B. SURFACE WATER CONTAMINATION

02 ☐ OBSERVED (DATE: _____)

☒ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____

04 NARRATIVE DESCRIPTION

Groundwater migration (downgradient) to surface water 1/5 mile away. This surface water empties into a creek used for recreational purposes which is also a designated trout stream.

01 ☐ C. CONTAMINATION OF AIR

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____

04 NARRATIVE DESCRIPTION

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____

04 NARRATIVE DESCRIPTION

01 ☐ E. DIRECT CONTACT

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____

04 NARRATIVE DESCRIPTION

01 ☐ F. CONTAMINATION OF SOIL

02 ☒ OBSERVED (DATE: 1956, 1965, 1989)

☐ POTENTIAL

☐ ALLEGED

03 AREA POTENTIALLY AFFECTED: 5

04 NARRATIVE DESCRIPTION

(Acres)

Chromium contamination in soil and ground water due to Grand Rapids Brass (former owner) has been documented. Additional contamination to this soil from GRM Industries may occur if adequate measures are not taken.

01 ☒ G. DRINKING WATER CONTAMINATION

02 ☒ OBSERVED (DATE: 1965, 1989)

☐ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____

04 NARRATIVE DESCRIPTION

As above, chromium contamination in groundwater is already present. Further contamination may occur. The few wells in use that tap into this groundwater supply may be used for drinking water purposes.

01 ☐ H. WORKER EXPOSURE/INJURY

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____

04 NARRATIVE DESCRIPTION

01 ☐ I. POPULATION EXPOSURE/INJURY

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____

04 NARRATIVE DESCRIPTION



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE
MI

02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ K. DAMAGE TO FAUNA 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ L. CONTAMINATION OF FOOD CHAIN 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Possible contamination of Buck Creek (a designated trout stream) via groundwater migration to surface water 1/5 mile downgradient of facility.

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ N. DAMAGE TO OFF-SITE PROPERTY 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☒ O. CONTAMINATION OF SEWERS, DRAINS, WWTPS 02 ☐ OBSERVED (DATE: 1956) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Leakage and flooding from sewer and handling station of untreated plating line drippings (acidic chrome and nickel).

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references; e.g., state files, sample analysis, reports)

Legal proceedings against the facility owners in 1956 and 1965. Soil and groundwater test results conducted in 1950's, 1960's and 1989.

ATTACHMENT B

VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPHS

VISUAL SITE INSPECTION SUMMARY

GRM Industries
Wyoming, Michigan
MID 005 356 175

Date: November 15, 1991

Facility Representatives: Richard Wood
Mike Kellner, Manager Engineering Services

Inspection Team: Pete Wolsko, B&V Waste Science and Technology Corp.
Matt Mastronardi, B&V Waste Science and Technology Corp.

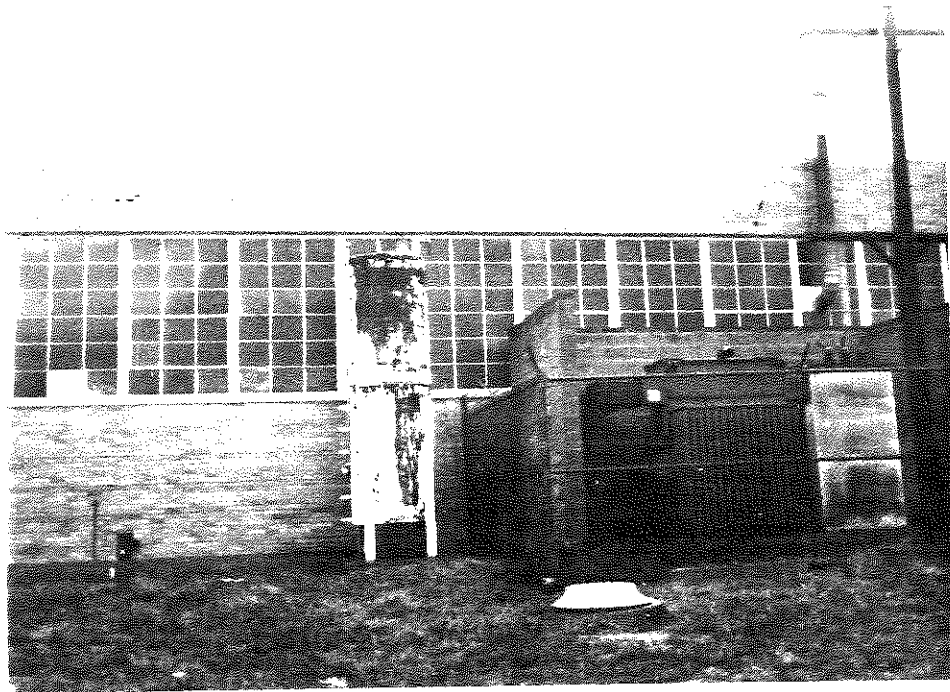
Photographer: Matt Mastronardi, B&V Waste Science and Technology Corp.

Weather Conditions: Calm, overcast with a slight drizzle, temperature about 45°F.

Summary of Activities: The visual site inspection (VSI) began at 8:40 a.m. with an introductory meeting with Richard Wood. The inspection team discussed the purpose of the VSI and the agenda for the visit. Richard Wood and the inspection team then discussed the facility in more detail. Most of the information was exchanged on a question and answer basis. At 10:30 a.m., the inspection team toured the facility. Richard Wood accompanied the inspection team and he assisted the team in being able to photograph all SWMUs and waste generating units.

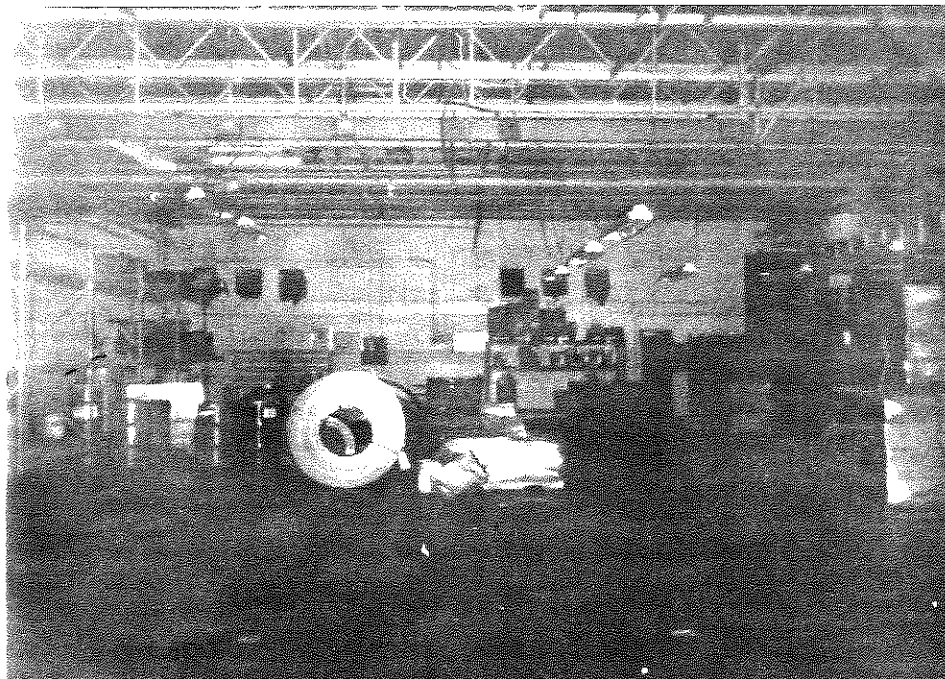
A number of facts regarding the status of the site in general were noticed. The 20-yard, roll-off dumpster that held dewatered chrome sludge was still onsite (This was over the 90-day haul time required by law and had been noted in the 10/31/91 RCRA Compliance Inspection). The dye steam cleaning area was stained with a black substance (probably oil). The chroming area was also stained and the collection trough on the floor below contained a small amount of discolored liquid along its entire path. The entire press room floor was covered with a thin film of oil. The area where the scrap metal dumpsters are located had scattered pieces of scrap metal and oil on the ground. Visual inspection could not identify the oil contaminated area noted in the 1989 RCRA inspection, nor the area that had a direct discharge to the ground from the waste water treatment plant noted in 1978. All other SWMUs and waste generating units, as well as the rest of the site, appeared to be in satisfactory condition with no apparent problems.

The VSI concluded at approximately 11:30 a.m. After lunch (at 12:45 p.m.), the inspection team returned to the site and met with Richard Wood and Mike Kellner. The inspection team collected documentation regarding waste management and requested information that Mr. Kellner agreed he would attempt to locate. The VSI was completed at 2:30 p.m.



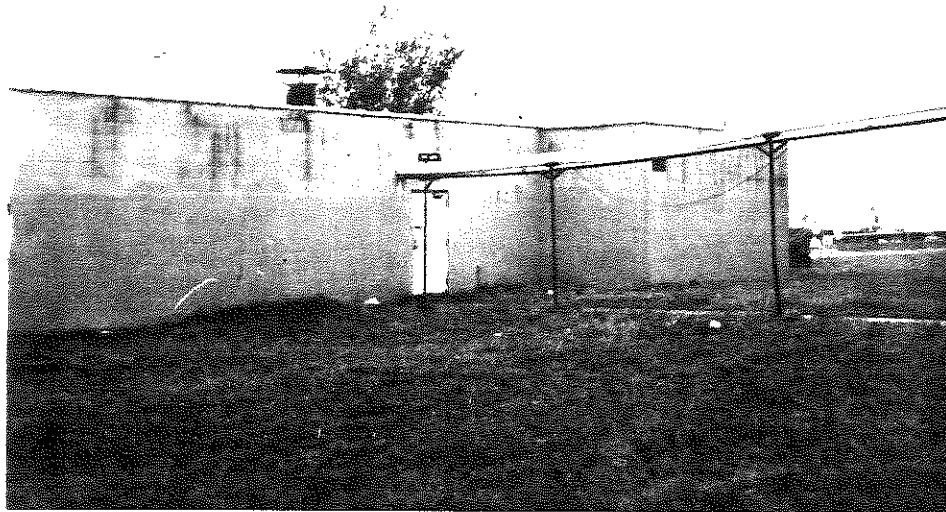
Photograph No. 1
Orientation: East
Description: Degreaser Solvent Tank

Location: SWMU #1
Date: 11-15-91



Photograph No. 2
Orientation: East
Description: Drum Storage Room

Location: SWMU #2
Date: 11-15-91



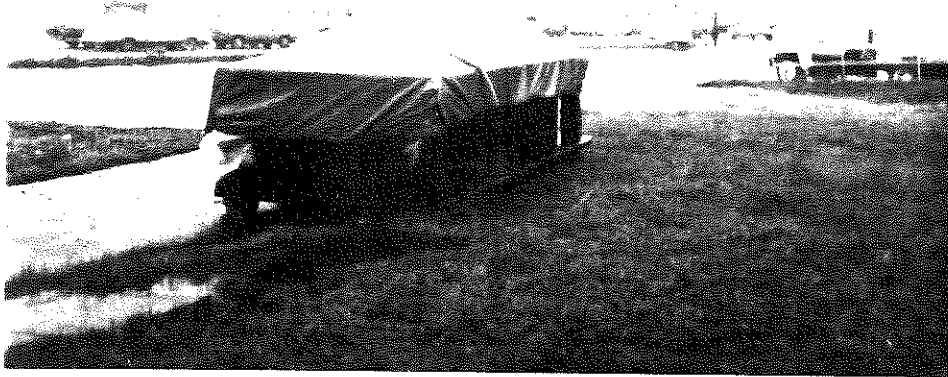
Photograph No. 3
 Orientation: Northwest
 Description: Waste Water Treatment Plant

Location: SWMU #3 -
 Date: 11-15-91



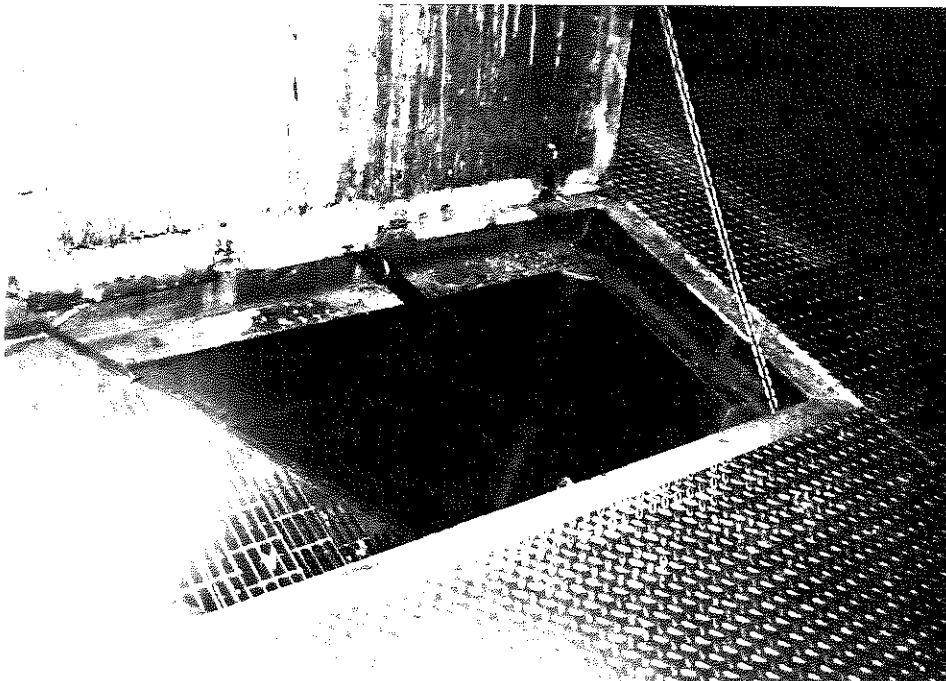
Photograph No. 4
 Orientation: Southwest
 Description: Scrap Metal Dumpster Roll-Off located west of Main Building. Ponded rainwater is on ground and in concrete foundation in foreground.

Location: SWMU #4
 Date: 11-15-91



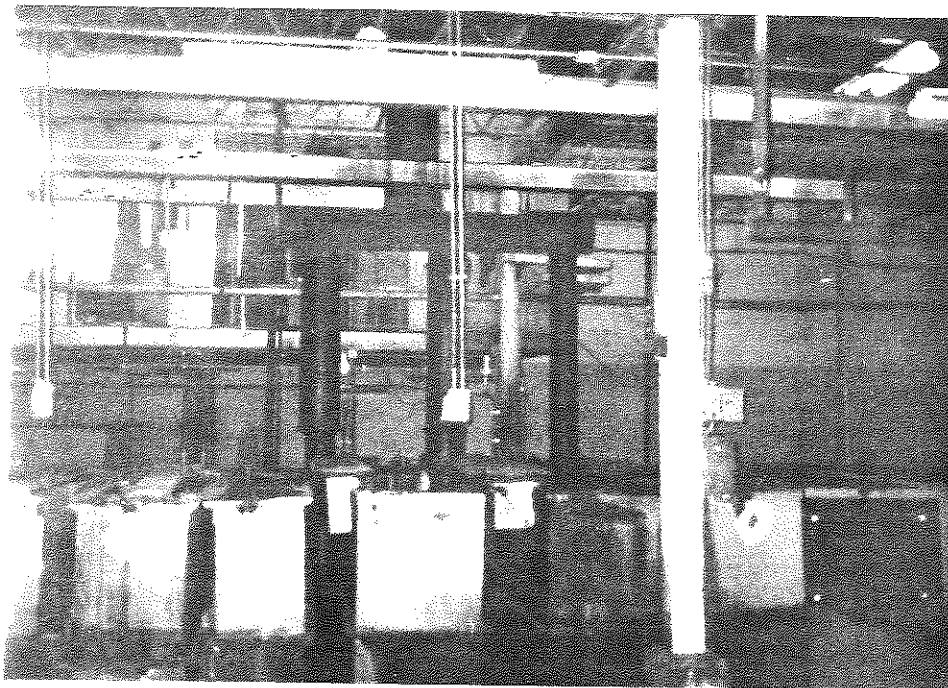
Photograph No. 5
Orientation: North
Description: Chrome Sludge Dumpster

Location: SWMU #5
Date: 11-15-91



Photograph No. 6
Orientation: Northwest
Description: Waste Oil Pits

Location: SWMU #6
Date: 11-15-91



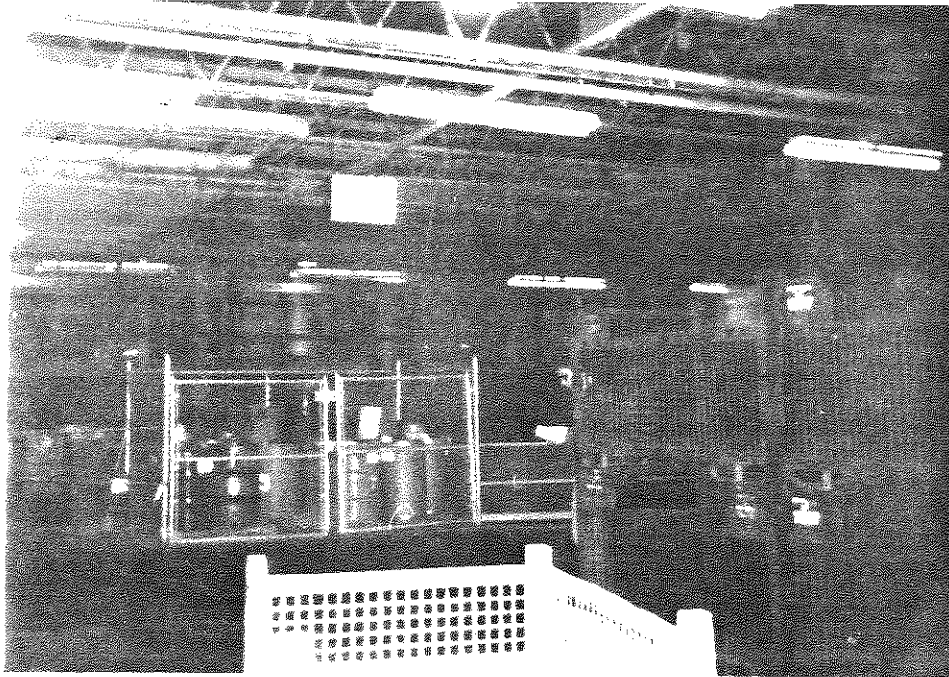
Photograph No. 7
Orientation: East
Description: Air Scrubber

Location: SWMU #7
Date: 11-15-91



Photograph No. 8
Orientation: South
Description: Waste Oil/Water Pit

Location: SWMU #8
Date: 11-15-91



Photograph No. 9
Orientation: East
Description: Additional Drum Storage Areas

Location: SWMU #9
Date: 11-15-91

ATTACHMENT C

VISUAL SITE INSPECTION FIELD NOTES

B.41 met with Richard Wood

Plant Hst's - Crane & Wickel Planting only

Ceased 4th's 1 year ago

This was leased. before GE took over

before they placed bumper guards - but

not sure.

Metal stampings - for automobile oil

pans and brackets. Before they made

bumper guards and placed those with

the chrome. 1974 till 1 yr. ago.

Not GE Brass

80 employees → during the last 8 mos.

100-120 over the past decade.

Added Press Building → need to

check on date. 1976

The Wks

End out size.

Guard Service 2 pm → 7 am

Forced in → with EPS → Elect. Prot. Syst.

West opening + east opening.

Coarse operations entirely March 31, 92

Press Room is 41 - circled.

Incoming Chemicals for Chrom-Ni will
stored in parts crib

→ Nickel Sulf., Cleaners

↳ Check on it

Nickel Chips

Chromic Acid → small drums.

as needed Sulf from Parts Crib was moved

to area B → then applied to line

Pat W. 8

Plating area had trough for drainage
all drained to one trough.

It would drip off, the parts
continuous flow - some water runs
would flow 2 gal/minute sometimes

Drawing Cpd. not used, nor caustic reqd.

Sulfuric Acid + Muriatic Acid went in to
treatment.

P.C. then to B.

Chrome soln. was made in the plating area -
add chrome powder to Chrome Acid.

Stored in the Plating Area

Chrome = Chrome Acid

Mixture of those wastes shipped to floor.

Pete Wells

11/15/91

clp and move to next tank

32 tanks conveyor line - lot of drip
@ clean tank @ water runs @ acid tank.

① water @ chrome enough @ nickel.

The water runs would overflow, causing
the most water waste.

The drip contained in trough then was
pumped to the waste tank because periodically.

When real busy - every 4 hrs.

4500 gal every 4 hrs max.

last 3 years 1 shift.

from time to time a second waste
treatment shift

Not sure about shifts before last 3 yrs.

Pete Wolf

the waste treatment system. Through sld.

waste treatment system.

① ppt metals
② ppt metals
③ dewater

④ water is then tested
for POTW discharge

⑤ Sludge is pumped to

fill pond

⑥ This dewater is put back
in a tank for reprecipitation.

The cake was put into sludge.

Picked up by Valley City to Enbridge in 4 hours

Picked up within 90 days.

max was 20 yd³ every 90 days.

The old solids were sold to another facility

some to

Pivoted and sold to another company.
because expensive

Pete Wells

11/15/91

Plating

in operation till about 1 year ago.

They make press parts in 14" bldg.

oil is contained in a pit within each

press - only used for 1 press
and occasionally for other ones.
oil used to drain parts.

Collect from pit every now + then
or ~~when necessary~~

10-12 times a year.

= 13200 gal. per visit

(2000-2500) G.R.

2000
1200
1000

Safety Claw oil Service took it

also Envinetex was used in past
Envinetex Process. Seen in G.R.

3/91

The scrap metals are put in roll off
self contained.

Panels for recycling steel + aluminum

1 month guess *the* *W&S*

11/15/71

2 stage parts cleaner. Clean old oil so it can be resistance welded. in large parts room.

Water rinse w/ caustic cleaner.

1/2 gal solus are pumped from the cleaner to the plating trough and then this is treated. \rightarrow 1/yr.

3 stage in small

& cleaner, water rinse, iron phosphate coating. every 6 mos. this is dumped to keep it fresh.

\rightarrow this used to be dumped. directly sewer, but whenever changed stds. about 2-3 yrs ago.

Steel hopper. Same as ①

clean dyes at ③ where the oil is power stand off. it broke a while ago - right now has oil/water in it and planning on cleaning it up in near future.

Pete Wolf

11/15/91

① was held in pit, had a back heat system

probably didn't do it

usually this was tested and qualified for
prior to be used away with it.

3 storage tanks outside need to be
cleaned + removed

② & H_2SO_4 ③ H_2SO_4 tested, not used in years

pumped from truck into tank

& H_2SO_4 + Caustic Soda tanks inside waste
treatment house.

Fuel oil outside underground

45T labeled on map

- Truckwater ???

Food → used in area ③

Pete W 6/8

11/15/91

⑨ used as cleanup, in stopped in B3

↳ store it in ⑩ or ⑪

1984 - why changed? → don't know.

Does it should have been handled.

Site Drainage?

only one check station by city to west side

discharge from ③ directly to sewer below

Somehow drums in area ⑬

used to be 87 & drums

89-90 - 15, 18, 19, 20

90 & 100 roll off dump site.

They have chrome air scrubber right over plate
at the ⑨ installed after 1986??

↳ check on it.

spill ???

Pete Wolf

11/15/11

Cham. Scrubber group
Gittus go into the
roll offs. → 2 - (Doo?)

10:30 - went on site tour with Richard Wood.

① Walk to 2-stage Pads Clear

② Walk to 3 stage, partly cleared.

③ See plan for pads.

④ Middle Clear, not cleared

⑤ See 4 stage clearing
southward.

⑥ Same as ⑤ west.

⑦ 4 stage this East.

⑧ ⑨ ⑩ 4 stage clear room, not cleared.

⑪ Training with

14th 10/18

11/15/91

(7) Alameda Sycamore down
south

(8) East

(9) East

(10) West

(11) to red wet area.

(12) on study sample

(13) on C.R. at East

(14) Deep South.

(15) South West

(16) Shallow South

(17) Alameda Sycamore west.

(18) red wet

11:30 Lunch with Matt Mar. + Richardson

Pat Wolf

12:45 Met with Mike Miller + Richard Wood. 11/15/91

Gen. industrial area bordered by

residential

North - Gibson Food Processing

South - residential

East - Cement Factory
West - Gordon Foods Parking lot/field

RR

Mike Robinson -> Attorney -> Soil Bongs, Police

Bad Gottlieb up there. -> other stuff

Soil Removal 6/6

616 531 0400 -> Bud

Warner N: cross + Judge

616-459-6221

250 ft. Rick W. B.

